

LISTing Newsletter

OCTOBER 1987

Newsletter of the
Long Island Sinclair\Timex
Users Group
.....

Incorporating NYTSE

Price \$1.50

First, notice the OCTOBER date on this issue. The reason for this is that I accidentally put October on the last issue instead of September. To prevent you from missing an issue, I made this one Oct. as it should be. Second, the next meeting of LIST is on the back cover. NYTSE will meet the second Mon. of Nov. at Miss Kim's, Park Ave. So., between 21st and 22nd St. Time is 7PM.

Important: DEC. 13, BUY SELL SWAP at Harvey's House! 2PM!! Get \$ or Save \$! ALSO, LISTing NEEDS ARTICLES...BAD!!! SEND IT ALL NOW! To return address below.

L.I.S.T.

P.O. Box 438

Centerport, NY 11721-0438



TO:

Don
3310 Clover Dr S
Cedar Rapids

Jan-88
Lambert
IA
52404

FIRST CLASS MAIL
DATED MEETING NOTICE
Please DON'T delay!

Newsletter Newsnotes

Before I get to the news, let me explain the makeup of this issue. If you flip through it, you will notice that the entire issue is made up of programs (sprinkled with a few little bits). Why have I printed an entire article of listings? Have I carried the name of the newsletter too far?

Two reasons- 1) I don't have ANY articles I can print, and 2) people asked for programs! So here are programs! I tried to present an equal mix of 2068 and QL programs to be fair to all. Unfortunately, I haven't used my ZX81 in a LONG time, and couldn't dig up anything worthwhile to print for it...how about some of you (Tim?)? I know there are still a few ZX81 loyalists out there. Actually, there is one program for the ZX81, and some of the other programs can run on the '81 if you wanted them too. Also, if any of the programs have been seen by you before, my apologies. To help make up for any inconvenience, the 'Entertainer' music program is available on tape, along with some other public domain programs (like a 2068 version of Q*Bert!). If you would like a copy, just send a cassette tape with return postage to me:

Joe Newman
325 West Jersey Street, #2D
Elizabeth, New Jersey 07202

Interesting Issues

Current information on upcoming Fests: As announced in the last issue, the scheduled TS Fest that was to be held in California has been cancelled. As of the moment of writing this, the only 'large' Fest I know of will be held in Florida. Called the TS Winter Fest it is being run by several FL users groups.

I have been receiving conflicting information about this Fest from various sources. THE source for info on the Winter Fest is the Sun State BBS...904-775-0093. This BBS is 300

baud only, 8/1/N, 24 hours. Messages are posted here by the actual fest planners. The Fest is to be held the first weekend in March, (NOT the last weekend!), March 4-6, at the Orlando Marriott Hotel. The last rates I heard were \$90 per night for rooms...wow! I suggest if you plan to go you start reserving motel rooms and airline tickets AS SOON AS POSSIBLE...i.e. NOW. For more info on the Fest you can write:

Sunstate TS Winterfest
249 North Harden Avenue
Orange City, FL 32763

Rates for attending the Fest are currently set at \$5 per person, or \$9 per family, payable to "NEF TSUG". The rates will probably be a little higher at the door. I will print more info as I receive it.

LIST has decided to purchase a small quantity of microdrive cartridges. I believe these will be available to LIST members at the groups cost...about \$2.50 per cartridge...probably less. I have been unable to obtain a reliable source for cartridges at a lower price. The group is purchasing their cartridges from A+. If you would like to receive programs on microdrive at a LIST meeting it is suggested that you bring your own cartridges until the LIST cartridges arrive (or to save buying cartridges).

Attending the October meeting was Mark Smith, designer of a 68020 board for the QL. Mark designs products for Quantum Computing, and shared some fascinating information with the group. He says his 68020 board (of which he has a working prototype) makes the QL operate FASTER than a Macintosh+ !! He ran benchmarks that were published in BYTE magazine, and the speed was pretty amazing. Although not as fast as a full blown 68020 computer (which has been designed to make optimal use of 68020 circuitry), the QL 68020 board increases QL speed's by up to SEVERAL HUNDRED PERCENT! At the present time

there is no set retail price, but taking into account the cost of parts (68020 = \$200, 68881 math co-processor = \$180, sockets another \$30-50), the device will probably be about \$4 to 6 hundred dollars. Mark also stated that the board allows QL memory expansion up to 4 GIGabytes (if someone wished to produce that kind of expansion)!

Speaking of the QL, I have an advisory warning for you. You're gonna be surprised that a dealer of QL merchandise is giving notice against an item- but here it is: I have had very bad luck with several games produced by TALENT software. It seems that they fail to heed one of the LAWS of QL use- multiple cartridge formatting. The programs from them that I have sold (Jungle Eddi, Lost Pharaoh, QIMP) seem to load once (or not at all) before giving the ominous BAD MEDIUM report. I returned Jungle Eddi to my supplier THREE times already. I'm not saying that the software itself is bad- Talent software is among the best (i.e.- BASIC-ALLY). It is their media reproduction techniques that could use work. Unless they improve their quality control they might end up tumbling down the wrong trail- right after Clive.

And finally- a note on the future of the Futura. Are you sitting down for this one? In case you're not aware, the Futura was to be a QL clone, actually a much upgraded version of the QL. After many delays, including disputes with Amstrad over rights to the QL operating system, the Futura has still not surfaced. However, the latest news is that the Futura won't be a new computer after all, but rather an upgrade CARD. You know- a card that would slot into another computer to make that computer have the QDOS operating system. But the QL already has QDOS...so what computer can this board be for? You guessed it: IBM's and IBM compatibles!!!! Ain't it something...an UPgrade for the IBM TO a QL! By-the-way, you do know what IBM means, don't you? It means Ignorant Buyers Merchandise.

You can thank Frank Tomei of Quantum Computing for that one.

QL SOUND EXPERIMENTER

The following is a program you can use to experiment with the QL BEEP command. When you run the program you will see some instructions at the top of the screen. Near the bottom you will see the word BEEP followed by several numbers. These are the current settings for the BEEP command...you will hear what those settings do. I have no idea who created this program and I am assuming it is public domain. If anyone knows who the author is, please let me know and I'll print the info.

```

10 Sound
20 :
30 REMark Program created by ??
40 :
100 DEFine PROCedure Sound
110 LOCal duration, pitch1, pitch2,
gradx, grady, wrap, fuzz, random,
fast, time
120 LOCal userin, i, line$
130 CLOSE #1: OPEN#1,
con_450x200a36x12_128
140 PAPER 207: INK 2: MODE 8
150 duration=20000: pitch1=60:
pitch2=40: gradx=1800: grady=5:
wrap=5: fuzz=0: random=13: time = DATE:
RANDOMISE
160 CSIZE 2,0: CLS: STRIP 7: AT 0,10
170 PRINT 'SOUND EXPERIMENTS':
STRIP 207
180 PRINT 'Use top row numbers to
alter each''parameter. Press the
number to move upwards, and ''
185 UNDER 1:PRINT 'SHIFT':;UNDER 0
190 PRINT ' the number to
movedownwards. Press R for random, any
other key to PAUSE.'
200 PRINT 'Write down the command when
it is what you want.'
210 STRIP 5: AT 16,0: PRINT'1 = time,
2 = pitch 1, 3 = pitch 2 ''4 = grad
x, 5 = grad y, 6 = wrap ''7 =
fuzzy, 8 = random
220 REPEAT sounding
230 line$='beep
'&duration&','&pitch1&','&pitch2&','
&gradx&','&grady&','&wrap&','&fuzz&','
&random

```

```

240 AT 12,0:CSIZE 2,1: STRIP 6
250 INK 0:PRINT line$;FILL$('
',37-LEN(line$)): STRIP 207
260 CSIZE 2,0: AT 14,0: parm=1:INK 1
270 FOR i=5 TO LEN(line$)
280 IF line$(i) = ',' THEN PRINT
TO i-2;parm;: parm=parm+1
290 END FOR i
300 PRINT TO LEN(line$)-2;'8
': INK 2
310 BEEP duration, pitch1, pitch2,
gradx, grady, wrap,fuzz,random
320 REPEAT testing
330 userin = CODE(INKEY$(20))
340 IF userin <> 0 OR NOT BEEPING
THEN EXIT testing
350 END REPEAT testing
360 IF userin <> 0 THEN
370 fast = DATE - time
380 time = DATE
390 SELECT ON userin
400 ON userin = 49, 33
410 SELECT ON fast
420 ON fast = 1: duration =
duration + (-200 * (userin=33)) +
100: duration = INT(duration/100)*100
430 ON fast = 0: duration =
duration + (-4000 * (userin=33)) +2000:
*1000
440 ON fast = REMAINDER :
duration = duration +(-20 *
(userin=33)) + 10
450 END SELECT
460 IF duration > 32767 THEN
duration = 32767
470 IF duration < -32768 THEN
duration = -32768
480 ON userin = 50, 64
490 IF fast < 2 THEN pitch1 =
pitch1 + (-20*(userin=64)) + 10
500 IF fast >= 2 THEN pitch1 =
pitch1 + (-2*(userin=64)) + 1
510 IF pitch1 > 255 THEN pitch1
= 255
520 IF pitch1 < 0 THEN pitch1 =
0
530 ON userin = 51, 35
540 IF fast < 2 THEN pitch2 =
pitch2 + (-20*(userin=35)) + 10
550 IF fast >= 2 THEN pitch2 =
pitch2 + (-2*(userin=35)) + 1
560 IF pitch2 > 255 THEN pitch2
= 255
570 IF pitch2 < 0 THEN pitch2 =
0
580 ON userin = 52, 36
590 IF fast < 2 THEN
600 gradx = gradx +
(-80*(userin=36)) + 40
610 IF fast = 0 THEN gradx =
gradx + (-800*(userin=36)) + 400
620 ELSE
630 gradx = gradx +
(-4*(userin=36)) + 2
640 END IF
650 IF gradx > 32767 THEN gradx =
32767
660 IF gradx < -32768 THEN gradx =
-32768
670 ON userin = 53, 37
680 grady = grady +
(-2*(userin=37)) + 1
690 IF grady > 7 THEN grady = 7
700 IF grady < -8 THEN grady = -8
710 ON userin = 54, 94
720 wrap = wrap +(-2*(userin=94)) +
1
730 IF wrap > 15 THEN wrap = 15
740 IF wrap < 0 THEN wrap = 0
750 ON userin = 55, 38
760 fuzz = fuzz + (-2*(userin=38))
+ 1
770 IF fuzz > 15 THEN fuzz = 15
780 IF fuzz < 0 THEN fuzz = 0
790 ON userin = 56, 42
800 random = random +
(-2*(userin=42)) + 1
810 IF random > 15 THEN random=15
820 IF random < 0 THEN random = 0
830 ON userin = 82, 114: REMark 'R'
840 pitch1=RND(255):
pitch2=RND(255)
850 gradx=RND(32767):
grady=RND(15)-8
860 wrap=RND(15): fuzz=RND(15):
random=RND(15)
870 ON userin = REMAINDER
880 AT 19,0: FLASH 1: INK 1
890 PRINT'PROGRAM IS PAUSED':FLASH
0: INK 2
900 PAUSE: AT 19,0: PRINT FILL$('
',17)
910 END SELECT
920 END IF
930 END REPEAT sounding
940 END DEFINE Sound

AN OPEN LETTER TO 2068 & 1000 USERS

Dear beloved Sinclair Users Groups:

YOU who are still using the 2068 or
1000 SINCLAIR computer, my hat is off
to you! You must really be into the

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power that is locked up into the little thing! I know all about it! I spent \$2000 on a TS 1000, got everything there was from every ad SYNC magazine! I even maintained a vigil at the local Timex/SINCLAIR outlet as the shipments with the first TS 1500's & 2068's were unloaded! I immediately locked myself away from the world for six months. I literally went into a "Program Development COMA" in an unused building tucked away behind a rural highway with the little animal. I still have a whole suitcase filled with the tapes with hundreds of these programs. I took the leftover 1000's and 1500 and put them to work upstairs performing data aquisition, measuring the wind speed, temperature & humidity out to 9 places, that's the nearest millionth of a mile per hour by the way, which is accuracy that is so accurate, it's useless!

So I can understand your plight with these machines, but I do want you to realize that there is a last of the family of SINCLAIR designs which literally picks up right where the 2068 leaves off! The SINCLAIR QL SUPERCOMPUTER! Certainly you know of it by now, and of the various discount prices which exist. I want to wake you up to the fact that at the current low prices of the original model, which is less than the cost of the parts on the circuitboard, there may not be anymore around for you when you finally come out of your coma with the prior models! This will be a shame! You users who are the greatest fanatics of all of the little SINCLAIR computers will be the guys who will miss the boat on this, just because you aren't ready for it right now! DON'T BE FOOLS! EVEN IF YOU PUT IT AWAY IN THE CLOSET RIGHT NOW AND DON'T USE IT UNTIL NEXT YEAR! AT THE LEAST YOU WILL HAVE IT, THE GREATEST SINCLAIR COMPUTER AND THE MOST POWERFUL SINGLE KEYBOARD COMPUTER OF THE 20TH CENTURY IN YOUR POSSESSION!!! YOUR COLLECTION OF THE SINCLAIR FAMILY OF SUPERIOR TECHNOLOGY THAT REDEFINED THE INDUSTRY WILL ACTUALLY BE COMPLETE!!

You are probably the same people who are always stating that these computers are orphans, with no availability and insufficient support. That's only true of the extent that YOU are declairing it to be so! And in the process of doing this, you are actually serving to create, nurture, and subsequently perpetuate such an image! SHAME ON YOU!!

The QL will NEVER get stail, abandoned, or orphaned. At least not in our lifetime! It's a 68000 Architecture 32 BIT computer you will use for the rest of your life! There are hundreds of thousands of them in Europe alone! There is now the emergence of more business, educational, scientific, and hacker programs than at any other prior time! The interest, involvement and support is still building up all around the world! The emergence of the QL clones, the THOR, FUTURA PC-68K for QDOS on MS-DOS and the CPMulator ROM and it's Universal Disk Read software bear this out!

It's the lagging effect. You users of the prior SINCLAIR models who still don't own the QL are the living proof of this lagging effect because you still don't have it!!! Here is an example of the similarity of the QL and the 2068, and how the QL carries the tradition to a higher, more superior level:

The 2068 has border, paper and ink, for the sole main display. The QL uses border, paper and ink too, in windows addressed as channels, by number, but you can have up to 360 of them! The size can be specified to anywhere on the screen you want, and the border can be specified in width by pixels. If that's still not enough, you can have multiple colors in the border, paper and ink, specified discretely, or using 255 default patterns stored in the ROM!! Now that's just a pinhole peek into the QL! To go on with detail would build into an encyclopedia! There's more than enough in the QL to keep any SINCLAIR 2068 or 1000 fanatic hardware

chomper wallowing until the end of the century!

I'M INTO SINCLAIR SUPERIORITY THE WAY THE POPE IS INTO GOD!! This should be obvious. And now the QL is practically being GIVEN away. So if you are one of the SINCLAIR computer users who doesn't have the QL in your collection yet, you should act now and get the last of the models in this family while it's still here! I'm not telling you to start using it, that is your business. If you want to put it away and just keep on going with the 2068 or 1000, then go to it!

BUT AT LEAST THE QL WILL BE THERE FOR YOU IN YOUR PERSONAL POSSESSION WHEN YOU FINALLY HAVE THE DESIRE TO WORK WITH THE UPPER ESCHILON OF SINCLAIR SUPERIORITY!

I thank you for your consideration and I sincerely hope that you will partake in the opportunity to acquire maximum technology at the bare minimum price.

Sincerely yours,

Frank Toemay
SINCLAIR QL Innovationist

TS TELECOMMUNICATION TIPS... for LONG DISTANCE BBS'ers!

Most of us now have and use modems with our Sinclairs. And due to the dispersion of our unique group, long distance telecommunications are often required. This can become quite expensive if one is either not careful. It can also be expensive for OTHERS because of you!

How can this be? If you are on the receiving end of a BBS or telecomm call (chat mode on a BBS?) you may not realize how the caller may feel about calling long distance. The caller may be desperately trying to speed up or end the communication, but you may actually be hampering the effort with 'just one more question'! I wonder how many guys have been beat up by phone bills from TS'ing!

The most important tip is to be courteous and respectful of others. If a long distance caller seems anxious to end the comm, or keeps saying something like 'Ok, well take care...bye', don't just keep rambling on! Let him or her go! Or they may never call back.

And finally, a tip for use during actual live telecommunication chats. Cut typing to a minimum...avoid redundancy. Don't say something like 'My black sinclair computer is a little tiny black computer'. And it's not necessary to correct EVERY single typing mistake. Almost all SYSOPS or BBS'ers should realize the long distance factor prevents corrections. Unless a meaning is unclear, don't bother correcting. Again, don't just keep going on and on describing something if the caller may already know what you mean. And abbreviations are certainly appreciated if their meanings are clear!

Keep on BBS'ing, NOT BS'ing!

LETTER

A thank you to Cedric B. for his once again \ pointing out my 'silly' mistakes! Somehow I had a feeling he would be the one to notice my mistake on the last newsletter date! Say Cedric, interested in editing a newsletter?

Here I am again, hurrying to get this to you, because you incorrectly copied my letter to you on the BASICODE matter. Once again I'm giving the complete Hilversum address of the originators of BASICODE:

HOBBYSCOOP
P O Box 1200
1200 BE Hilversum
The Netherlands

Sincerely,
Cedric R. Bastiaans

Note that it is NOT HOBBYCODE, nor is it HOBBYSCOPE, but it is HOBBYSCOOP! May I suggest that you do not re-type this letter, but splice it into your columns; it's formatted to fit them... Then, the current LISTing is issue OCTOBER '87. The previous one was AUGUST '87. Did I miss out on the SEPTEMBER issue or what?

THROWING THE BABY OUT WITH THE WASHWATER?

When the ZX81 appeared on the market, it was such a sensation that it didn't matter that it had some less desirable features. It is less satisfying to find that two of these questionable features remained in the SPECTRUM and the TS2068.

The features I am talking about sound fine to the perfectionist, but us common folk who make mistakes can be shattered when we accidentally enter NEW or CLEAR or RUN. All our good work... up in smoke! Let's blame somebody! They deserve it! Really!

It would have been so simple to require verification when the user wants these functions. Think how much better you would be feeling if only you had the chance to correct your mistakes.

Though it is impossible to eliminate the accidents, something CAN be done to decrease their likelihood.

PURGE is the answer.

PURGE is a machine code utility which takes the place of CLEAR with certain unique differences.

Before explaining why it's the cat's meow, let's discuss some of the operating problems we run into.

1. The longer we work with a program, the more "garbage" we collect in the form of unused variables. They take up space.
2. CLEAR makes no distinction between what we want to keep, and what we would like to get rid of. It throws out the baby!
3. RUN, for some historic reason, also does a CLEAR! Why?
4. NEW does exactly what we want. It wipes out everything, except some system variables and data above RAMTOP. It is only its hair trigger that is bad.

Some will surely say, "That's what we have DATA statements for, you dummy."...Have you checked how wasteful of memory they are?

The ZX81 had no DATA statement, nor are any needed once you have PURGE.

PURGE was in fact written within two months of its appearance on the market. That is a few years back. It was designed to do the one thing you couldn't do selectively.

You can delete an instruction line.

You can delete the entire program.

You can get rid of an array or a string variable by dimensioning it to 0. This draws an error, but it works. ON ERR fixes that.

You CANNOT get rid of one single numeric variable without a total wash-out!

PURGE does exactly that. It CLEARS only numeric variables. It leaves strings and arrays (numeric arrays too) intact.

The significance of PURGE is startling. Old habits (because it has to be that way) can go by the wayside.

You can use DATA, or normal LET statements to define arrays, and then DELETE the statements! The variable now exists in the VARS section without being duplicated in BASIC. It is loaded and saved with the program, so it doesn't have to be regenerated again--unless you hit RUN or CLEAR.

With PURGE, you will learn to NEVER, NEVER! use either of them again. This is what cuts down on the possibility of accident.

Sure, there are programs where it doesn't matter. It is the habit that counts. You can always use GO TO 1 instead of RUN. It does not do a CLEAR. If you really want a CLEAR, do it; but get out of the habit of using RUN. Learn to deal with you variables the same way as you edit your program.

Often there are many smaller programs within your larger BASIC program. With each section using its own variables, there comes a time when they get in the way when they aren't being used.

Most of these are defined in the routines; all if the program section is immune to RUN.

When another routine, with another whole set of variables, is running; then the others are useless overhead.

With PURGE, you can eliminate all variables but those currently in actual use. Say good-bye to most OUT OF MEMORY problems.

The program for generating PURGE anywhere is shown here. At the overhead of 131 bytes, it pays for itself in a hurry.

The code can be rewritten in as little as 120 bytes, but the code as it stands has been bug free for years.

As you learn how to use PURGE, you will find that you will be loading variables in strings and arrays instead of defining them each time. You will also make much more use of DELETE for one-shot routines like special graphics routines.

Have fun with this new dimension in BASIC programming.

PURGE

```

6000 CLS : PRINT TAB 11;"PURGE
      "AT 2,7;"Creation Program"
      This program creates a pair of
machine code routines, which can
be joined in one space or in two
separate areas. ORG1 is the USA
address for execution. ORG2 is
the CALL address for the subrou-
tine "FIND_NEXT". It is usable
by other variable manipulating
programs, which is why it was
included in "PURGE".
6003 PRINT INK 1;"LENGTH: "PURGE
      " = 90 bytes, "FI
ND_NEXT" = 41 bytes, TAB 22;"
      ";TAB 14;"TOTAL = 131
      bytes"
6004 INPUT "Address for USA? ";O
RG1: PRINT AT 17,0;"ORG1=";ORG1;
6005 INPUT "Sections? 1 or 2 ";e
; IF VAL e#1 THEN LET ORG2=ORG
1+90: GO TO 6007
6006 PRINT " " end "ORG1+89"; IN
PUT "Address for FIND_NEXT? ";OR
G2
6007 LET U/n=INT (ORG2/256); PRI
NT "ORG2=";ORG2;" and ";ORG2+40
;" PRESS ANY KEY "; PAUSE 0
6008 RESTORE 6000: DATA 42,75,92
,34,150,92,62,128,190,200,203,11
0,245,205
6009 DATA ORG2-256;U/n,U/n
6010 DATA 34,152,92,241,32,0,42,
152,92,34,150,92,24,232,42,150,9
2,237,91,152,92,213,175,237,82,2
35,42,101,92,25,34,101,92
6011 DATA 42,99,92,25,34,99,92,4
2,97,92,25,34,97,92,42,89,92,220
,25,34,89,92,225,209,175,237,82,
229,193,3,42,150,92,235,237,176,
42,150,92,24,172
6012 DATA 126,230,224,254,199,40
,12,40,17,254,126,40,6,40,15,254
,96,40,17,35,94,35,86,25,35,201
6013 DATA 17,19,0,25,201,35,203,
126,40,251,17,6,0,25,201
6014 FOR n=ORG1 TO ORG1+89: READ
      Byte: POKE n,Byte: NEXT n
6015 FOR n=ORG2 TO ORG2+40: READ
      Byte: POKE n,Byte: NEXT n
6016 CLS : PRINT AT 12,4;"RECOR
      DING MACHINE CODE "
6017 SAVE "PURGE" CODE ORG1,90+(
      41 AND VAL e#1)
6018 IF VAL e#2 THEN SAVE "FIN
      D_NEXT" CODE ORG2,41
6020 PRINT AT 21,0;"TAB 8;" JOB C
      OMPETED "
6021 STOP

```

```

*****
* Bank#255 "PURGE"                               Length: 90 Bytes
* EXTERNAL:
*   OE      "FIND_NEXT"      14
*-----*
0 2A405C LD HL,(NN)      23627 *(VARS)
3 22965C LD (NN),HL      23702 *(HERE)
6 3E80 LD A,N      128 *END OF VARS MARKER
8 BE CP (HL)
9 C8 RET Z
10 CB6E BIT 5,(HL)
12 F5 PUSH AF
13 CD0000 CALL NN      0 *"FIND_NEXT"
16 22965C LD (NN),HL      23704 *(NEXT)
19 F1 POP AF
20 2000 JR NZ,+10      30 *RECALL STATUS
22 2A965C LD HL,(NN)      23704 *IF DELETE
25 22965C LD (NN),HL      23702 *(NEXT)
28 18E8 JR -22      6 *RECALL CY FLAG
* HERE IF DELETE
30 2A965C LD HL,(NN)      23702 *(HERE)
33 ED5B985C LD DE,(NN)      23704 *(NEXT)
37 D5 PUSH DE
38 AF XOR A
39 ED52 SBC HL,DE
41 ED EX DE,HL
* UPDATE SYSTEM VARIABLES
42 2A655C LD HL,(NN)      23653 *(STKEND)
45 19 ADD HL,DE
46 22655C LD (NN),HL      23653 *(STKEND)
49 2A635C LD HL,(NN)      23651 *(STKBOT)
52 19 ADD HL,DE
53 22635C LD (NN),HL      23651 *(STKBOT)
56 2A615C LD HL,(NN)      23649 *(WORKSP)
59 19 ADD HL,DE
60 22615C LD (NN),HL      23649 *(WORKSP)
63 2A595C LD HL,(NN)      23641 *(E_LINE)
66 E5 PUSH HL
67 19 ADD HL,DE
68 22595C LD (NN),HL      23641 *(E_LINE)
* DELETE RECORD
71 E1 POP HL
72 D1 POP DE
73 AF XOR A
74 ED52 SBC HL,DE
75 E5 PUSH HL
77 C1 POP BC
78 03 INC BC
79 2A965C LD HL,(NN)      23702 *(HERE)
82 EB EX DE,HL
83 ED80 LDIR
85 2A965C LD HL,(NN)      23702 *(HERE)
88 18AC JR -82      6 *NEXT RECORD
*****

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"The Entertainer" CONTINUED from page 8

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420 BEEP Q,O+G: BEEP EI,O+A: BE
EP Q,O+G: BEEP EI,O+E: BEEP EI,O
+F: BEEP EI,O+FS: BEEP Q,O+G: BE
EP EI,O+A: BEEP Q,O+G: BEEP EI,O
+E: BEEP EI,O+C: BEEP EI,G: GO S
UB CF
425 BEEP EI,A: BEEP EI,B: BEEP
EI,O+C: BEEP EI,O+D: BEEP EI,O+E
: BEEP EI,O+D: BEEP EI,O+C: BEEP
EI,O+D: GO SUB CC
430 BEEP H+EI,O+C: GO SUB CG: B
EEP EI,G: GO SUB CC: BEEP EI,FS:
BEEP EI,G: GO SUB CF
435 BEEP Q,O+C: BEEP EI,A: BEEP
Q,O+C: BEEP EI,A: BEEP EI,O+C:
BEEP EI,A: GO SUB CC
440 BEEP EI,G: BEEP EI,O+C: BEE
P EI,O+E: BEEP Q,O+G: BEEP EI,O+
E: BEEP EI,O+C: BEEP EI,G: GO SU
B CD

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445 BEEP Q,A: BEEP Q,O+C: GO SU
B CG: BEEP EI,O+E: BEEP Q,O+D: G
O SUB CC: BEEP H+EI,O+C:
500 PAUSE 250: GO TO 10
700 FOR i=2 TO 350
710 FOR i=2 TO 10: PRINT AT i,5
; FLASH 1;"---The Entertainer---
--": PRINT AT i-1,5;"
": BEEP .01,20: NEXT
i
715 FOR i=19 TO 13 STEP -1: PRI
NT AT i,5;" By Jim Smith 1987
": PRINT AT i+1,5;"
": BEEP .01,20: NEXT i
720 FOR i=2 TO 250
750 OUT 254,7: OUT 254,24: NEXT
i
780 RETURN

```

3 VOICE 2068 MUSIC

(8)

```

1 REM --The Entertainer--
  By Jim Smith 1987
  (305) 948-4956
2 PAPER 0: INK 7: BORDER 1: C
LS
3 DRAW 255,0: DRAW 0,175: DRA
W -255,0: DRAW 0,-175
5 GO SUB 700
6 BORDER 1
9 REM Change line 10 to any
  desired tempo.
10 LET TEMPO=1.0
15 LET PAUSE=60
20 LET W=TEMPO: LET WP=PAUSE
25 LET H=TEMPO/2: LET HP=PAUSE
30 LET Q=H/2: LET QP=HP/2
35 LET EI=Q/2: LET EP=QP/2
40 LET S=EI/2: LET SP=EP/2
45 LET O=12
50 LET C=0: LET CS=1
55 LET D=2: LET DS=3
60 LET E=4
65 LET F=5: LET FS=6
70 LET G=7: LET GS=8
75 LET A=9: LET AS=10
80 LET B=11
90 GO SUB 200
95 GO TO 300
100 REM * CHORDS *
115 REM C=C-E-G
120 LET X=211: LET Y=167: LET Z
141: GO SUB 190: RETURN
125 REM C#=#-F-G#
130 LET X=199: LET Y=158: LET Z
133: GO SUB 190: RETURN
135 REM D=D-F#-A
140 LET X=188: LET Y=149: LET Z
125: GO SUB 190: RETURN
145 REM D#=#-G-A#
150 LET X=177: LET Y=141: LET Z
118: GO SUB 190: RETURN
155 REM E-E-G-A-C
157 LET X=158: LET Y=125: LET Z
105: GO SUB 190: RETURN
160 REM F#=#-A#-C#
162 LET X=149: LET Y=118: LET Z
99: GO SUB 190: RETURN
165 REM G=G-B-D
167 LET X=141: LET Y=112: LET Z
94: GO SUB 190: RETURN
170 REM G#=#-C-D#
172 LET X=133: LET Y=105: LET Z
89: GO SUB 190: RETURN
175 REM A=A-C#-E
178 LET X=125: LET Y=99: LET Z=
84: GO SUB 190: RETURN
180 REM A#=#-D-F
182 LET X=118: LET Y=94: LET Z=
79: GO SUB 190: RETURN
185 REM B=B-D#-F#
187 LET X=112: LET Y=89: LET Z=
74: GO SUB 190: RETURN
190 SOUND 0,X:1,0:2,Y:3,0:4,Z:5
,0:7,56:8,16:9,16:10,16:12,120:1
3,9: RETURN
195 SOUND 8,0:9,0:10,0: RETURN
200 LET CC=115
205 LET CS=125
210 LET CD=135
215 LET CDS=145
220 LET CF=155
225 LET CFS=160
230 LET CG=165
235 LET CGS=170
240 LET CA=175
245 LET CAS=180
250 LET CB=185
255 LET TERM=195
260 RETURN

```

The AL don't sound like
this! (Ha Myles)

```

300 REM * ENTERTAINER *
305 BEEP EI,D: BEEP EI,DS: GO 3
UB CC: BEEP EI,E: BEEP Q,0+C: BE
EP EI,E: BEEP Q,0+C: BEEP EI,E:
GO SUB CF: BEEP H+Q,0+C
310 BEEP EI,0+C: BEEP EI,0+D: B
EEP EI,0+DS
315 GO SUB CC: BEEP EI,0+E: BEE
P EI,0+C: BEEP EI,0+D: GO SUB CG
: BEEP Q,0+E: BEEP EI,B: BEEP Q,
0+D
320 GO SUB CC: BEEP H+Q,0+C: BE
EP EI,D: GO SUB CG: BEEP EI,DS
325 GO SUB CC: BEEP EI,E: BEEP
Q,0+C: BEEP EI,E: BEEP Q,0+C: BE
EP EI,E: GO SUB CF: BEEP W-EI,0+
C
330 BEEP EI,A: BEEP EI,G: GO SU
B CD
335 BEEP EI,FS: BEEP EI,A: BEEP
EI,0+C: BEEP Q,0+E: BEEP EI,0+D
: BEEP EI,0+C: BEEP EI,A: GO SUB
CG
340 BEEP H+EI,0+D: BEEP EI,D: B
EEP EI,DS: GO SUB CC
345 BEEP EI,E: BEEP Q,0+C: BEEP
EI,E: BEEP Q,0+C: BEEP EI,E: GO
SUB CF: BEEP H+Q,0+C: BEEP EI,0
+C: BEEP EI,0+D: BEEP EI,0+DS
350 GO SUB CC: BEEP EI,0+E: BEE
P EI,0+C: BEEP EI,0+D: GO SUB CG
: BEEP Q,0+E: BEEP EI,B: BEEP Q,
0+D
355 GO SUB CC: BEEP H+EI,0+C: B
EEP EI,0+D
360 BEEP EI,0+E: BEEP EI,0+C: B
EEP EI,0+D: GO SUB CAS: BEEP Q,0
+E: BEEP EI,0+C: BEEP EI,0+D: BE
EP EI,0+C
365 GO SUB CF: BEEP EI,0+E: BEE
P EI,0+C: BEEP EI,0+D: BEEP Q,0+
E: BEEP EI,0+C: BEEP EI,0+D: BEE
P EI,0+C: GO SUB CC
370 BEEP EI,0+E: BEEP EI,0+C: B
EEP EI,0+D: GO SUB CG: BEEP Q,0+
E: BEEP EI,B: BEEP Q,0+D: GO SUB
CC
375 BEEP H+EI,0+C: BEEP EI,0+C:
BEEP EI,0+F: BEEP EI,0+FS: BEEP
Q,0+G: BEEP EI,0+A: BEEP Q,0+G:
BEEP EI,0+E: BEEP EI,0+F: BEEP
EI,0+FS
380 BEEP Q,0+G: BEEP EI,0+A: BE
EP Q,0+G: BEEP EI,0+E: BEEP EI,0
+C: BEEP EI,G: GO SUB CF
385 BEEP EI,A: BEEP EI,B: BEEP
EI,0+C: BEEP EI,0+D: BEEP EI,0+E
: BEEP EI,0+D: BEEP EI,0+C: BEEP
EI,0+D: GO SUB CC
390 BEEP EI,G: BEEP EI,0+E: BEE
P EI,0+F: BEEP EI,0+G: BEEP EI,0
+A: BEEP EI,0+G: BEEP EI,0+E: BE
EP EI,0+F
395 BEEP Q,0+G: BEEP EI,0+A: BE
EP Q,0+G
400 BEEP EI,0+E: BEEP EI,0+F: B
EEP EI,0+FS
405 BEEP Q,0+G: BEEP EI,0+A: BE
EP Q,0+G: BEEP EI,0+G: BEEP EI,0
+A: BEEP EI,0+AS: GO SUB CG
410 BEEP EI,0+B: BEEP Q,0+B: GO
SUB CD: BEEP Q,0+B: BEEP EI,0+A
: BEEP EI,FS+0: BEEP EI,0+D
415 GO SUB CG: BEEP H+EI,0+G: B
EEP EI,0+E: BEEP EI,0+F: BEEP EI
,0+FS: GO SUB CC

```

CONTINUE

You know this one- from the "String" movie! ON PAGE 7
Page 8

Electronic Design Aids!

Ø REM VOLTAGE REGULATOR OP AMP
DRIVEN COPYRIGHT 1984 BY
BILL HARMER, OTTAWA

```

1 PRINT AT 10,0;"ELECTRONIC D
ESIGN AIDS ----- BY BILL HARM
ER, OTTAWA, 1984"
2 PAUSE 350
3 CLS
4 REM FOR THE PERSONAL USE OF
OTTAWA CHAPT. TIMEX/SINCLAIR
USER GROUP MEMBERS ONLY (NO LIAB
ILITY FOR BURNED TRANSISTORS, FIN
GERS, ETC. IS ACCEPTED BY THE
AUTHOR SINCE ELECTRONICS IS AN
EXPERIMENTAL SCIENCE. MURPHY'S LAW
APPLIES.)
5 REM VR OP 5. A VOLTAGE REGUL
ATOR CIRCUIT DESIGN PROGRAM USIN
G A 741 O-AMP AND NPN TRANSISTOR.
BY BILL HARMER, OTTAWA, 1984
6 LET W=0
11 IF W<>0 THEN NEW
20 PRINT AT 10,0;"OP AMP VOLTA
GE REGULATOR DESIGN"
35 PRINT AT 20,0;"PRESS ENTER
TO GO ON"
40 INPUT B$
42 IF B$="SESAME" THEN GOTO 90
00
45 CLS
55 PRINT "THIS PROGRAM WILL DE
SIGN A VOLT-AGE REGULATOR USING
AN NPN TRAN-SISTOR DRIVEN BY A 7
41 I.C. OP AMP"
56 PRINT "PRESS ENTER TO GO ON
"
57 INPUT A$
60 CLS
61 PRINT "CHOOSE A ZENER DIODE
THAT HAS A ZENER VOLTAGE 0.7 VO
LTS HIGHER THAN THE DESIRED OUT
PUT VOLTAGE. IF NECESSARY AD A 1
N914 IN SERIES WITH THE ZENE
R TO RAISE THIS VOLTAGE +0.7 V.
"
62 LET S=0
64 PRINT "A 400 MW TO 1 WATT
ZENER DIODE CAN BE USED*"
65 PRINT
70 PRINT "ENTER THAT ZENER VOL
TAGE (OR IF IN914 USED ZENER V.+
0.7V) NOW"
80 INPUT Z
85 IF Z>26 THEN PRINT "ZENER V
OLTAGE MUST BE UNDER 26 VOLTS"
86 IF Z>26 THEN GOTO 60
90 CLS
95 PRINT "OUTPUT VOLTAGE WILL
BE ",Z-0.7,"VOLTS"
97 PRINT
98 PRINT "ENTER ""OK"" IF THIS
IS OK OR ""TRY"" IF YOU WANT
TO TRY AGAIN TO CHANGE IT"
99 INPUT A$
100 IF A$="TRY" OR A$="T" OR A$
="AGAIN" THEN GOTO 60
102 IF A$<>"OK" AND A$<>"O.K."
AND A$<>"OKAY" AND A$<>"T" AND A
$<>"TRY" THEN GOTO 98
105 PRINT "ENTER MAXIMUM INPUT
VOLTAGE FOR VOLTAGE REGULATOR NO
W"
110 INPUT V
120 CLS
130 IF V>30 THEN PRINT "INPUT
VOLTAGE IS TOO HIGH FOR THIS OP
-AMP. TRY AGAIN"
140 IF V<5 THEN PRINT "THIS VOL
TAGE IS TOO LOW FOR OP- AMP. TRY
AGAIN"
150 IF V<3.3 AND S<>1 THEN PR
INT "INPUT VOLTAGE IS TOO LOW FO
R OUTPUT VOLTAGE REQUIRED OF
THE CIRCUIT. TRY AGAIN"
155 IF V<2.3 AND S=1 THEN PRI
NT "INPUT VOLTAGE IS TOO LOW FOR
OUTPUT VOLTAGE REQUIRED OF T
HE CIRCUIT. TRY AGAIN"

```

```

160 IF V>30 OR V<5 OR V<3.3 T
HEN GOTO 56
165 IF S=1 AND V<2.3 THEN GOT
O 56
170 IF S=1 THEN GOTO 250
180 PRINT "NOW ENTER MINIMUM IN
PUT VOLTAGE. IF IT IS THE SAME AS
MAXIMUM (";V;" VOLTS) ENTER
THAT"
190 INPUT N
200 CLS
210 IF N=V THEN LET S=1
220 IF N=V THEN LET U=1.1*V
230 IF S=1 AND V/1.1<>N/0.9 THE
N LET N=N*0.9
235 IF B$="DIAG" AND S=1 THEN P
RINT "MAX AND MIN VOLTAGES HAVE
BEEN CHANGED TO ";V;" AND ";N;"
RESPECTIVELY"
240 IF S=1 THEN GOTO 130
250 IF N<5 THEN PRINT "MINIMUM
INPUT VOLTAGE IS TOO LOW FOR OP-A
MP. TRY AGAIN"
255 REM U.R. DESIGN PROGRAM 198
4. BY BILL HARMER, ALL RIGHTS
RESERVED
260 IF N<3.3 AND S<>1 THEN PR
INT "MINIMUM INPUT VOLTAGE IS TO
O LOW FOR CIRCUIT TO OUTPUT ";Z-0.
7;" VOLTS. TRY AGAIN"
265 IF N<2.3 AND S=1 THEN PRI
NT "MINIMUM INPUT VOLTAGE IS TOO
LOW FOR CIRCUIT TO OUTPUT ";Z-0.7
;" VOLTS. TRY AGAIN"
270 IF N<5 THEN GOTO 56
272 IF S<>1 AND N<3.3 THEN GOTO
56
275 IF S=1 AND N<2.3 THEN GOT
O 56
280 PRINT "ENTER MINIMUM BETA (
HFE) OF THE NPN PASS TRANSISTOR
YOU WILL BE USING IN THE CIRCUI
T NOW"
290 INPUT B
300 CLS
310 PRINT "ENTER THE MAXIMUM CO
LLECTOR CURRENT OF THE TRANSIST
OR YOU WILL USE NOW (IN MA)"
320 INPUT M
325 CLS
330 LET C=M/1000
340 PRINT "ENTER THE POWER DISS
IPATION OF THE TRANSISTOR (**IN
MILLIWATTS*) NOW"
350 INPUT P
360 LET D=P/1000
365 LET O=D/((V-(Z-0.7))*3)
370 REM LET O=C/5
371 REM SET OPERATING CURRENT
372 IF O>B*.010 THEN LET O=B*.0
010
373 IF (V-(Z-0.7))*O>D*.85 THE
N PRINT "POWER DISSIPATED IS TOO
MUCH FOR TRANSISTOR-TRY AGAIN"
374 IF (V-(Z-0.7))*O>D*.85) THE
N GOTO 61
375 IF O<1 THEN PRINT " OPTIMU
M MAXIMUM CURRENT OUTPUT=";1000*
O;"MA."
376 IF O>1 THEN PRINT " OPTIMU
M MAXIMUM CURRENT OUTPUT=";O;"AM
P."
380 IF (V-(Z-0.7))*O>D/2 AND (V
-(Z-0.7))*O<=D*.85 THEN PRINT "
POWER DISSIPATED IS NEAR MAXIMUM
OF TRANSISTOR"
390 PRINT " ***NOTE ZENER RESIST
OR IS CLOS- EST VALUE TO ";INT (
(N-Z)/0.008);" OHMS"
392 PRINT
393 PRINT "PRESS ENTER TO GO ON
"
395 INPUT A$
398 CLS
399 GOSUB 1000

```

Continued on Page 10

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should send articles here as well. Page 9.

CONTINUED...

page 2 of listing for Voltage regulator Program

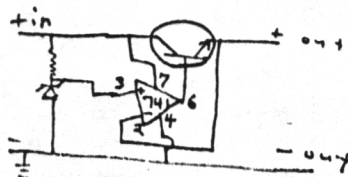
```

405 LET U=1
420 PRINT "TO TRY AGAIN ENTER "
"TRY" IF NOT ENTER ""QUIT""
430 INPUT A$
435 CLS
440 IF A$="QUIT" OR A$="0" THEN
GOTO 500
450 IF A$="TRY" OR A$="T" THEN
GOTO 505
460 IF A$<>"TRY" AND A$<>"T" AN
D A$<>"QUIT" AND A$<>"0" THEN PR
INT "ANSWER ""TRY"" OR ""QUIT""
ONLY"
470 IF A$<>"TRY" AND A$<>"T" AN
D A$<>"QUIT" AND A$<>"0" THEN GO
TO 420
500 LET U=1
505 IF B$="DIAG" THEN PRINT "ME
MORY USED=";PEEK 16395+256*PEEK
16397-16384;" BYTES INCL. SYS. V
ARIABLES"
510 GOTO 11
1000 REM CIRCUIT CONNECTIONS
1010 PRINT "***THE CIRCUIT***"
1015 PRINT "PIN NUMBERS REFER TO
PINS OF 7410P-AMP (8 PIN DIP VE
RSION)"
1020 PRINT "CONNECT PIN 4 AND TH
E ANODE OF THE ZENER DIODE TO T
HE NEGATIVE TERMINAL OF THE UNRE
GULATED D.C. POWER SUPPLY. THIS A
LSO IS THE NEGATIVE V. OUTPUT"
1025 PRINT
1030 PRINT "CONNECT ONE END OF T
HE RESISTOR (APPROX. ";INT ((N-Z
)/0.008);" OHMS.), PIN 7, AND TH
E NPN TRANSISTORS COLLECTOR TO T
HE POSITIVE TERMINAL OF THE D.C
UNREGULATED POWER SUPPLY"
1035 PRINT
1040 PRINT "CONNECT THE OTHER EN
D OF THE RESISTOR AND THE CAT
HODE (RING-ED END) OF THE ZENER
DIODE TO PIN 3"
1050 PRINT "***PRESS ENTER TO GO
ON"
1060 INPUT A$
1070 CLS
1080 PRINT "CONNECT PIN 2 AND T
HE TRANSIST-OR EMITTER TO THE OUT
PUT OF THE CIRCUIT (POSITIVE SOU
RCE OF ";Z-0.7;" VOLTS REGUL
ATED"
1090 PRINT
1100 PRINT "ADDITIONAL PROTECTIV
E COMPONENTS ADVISABLE TO ADD ARE
-(1) A FAST-BLOW FUSE ON OUTPUT
(2) A 1N4001 DIODE ANODE TO EMITTE
R AND CATH-ODE TO COLLECTOR"
1105 PRINT "SPECS--OUTPUT VOLTAG
E=";Z-0.7;" VOLTS. ZENER DIODE V
OLTAGE=";Z;" VOLTS. 1/2 WATT RE
SISTOR (CLOSEST STANDARD VALUE T
O ";INT ((N-Z)/.008);" OHMS"
1106 IF 0<1 THEN PRINT "CONSERVA
TIVE MAX CURRENT RATING=";0+1000
;" MA"
1107 IF 0>1 THEN PRINT "CONSERV
ATIVE MAX CURRENT RATING=";0;" A
MPS"
1108 IF B$="DIAG" AND S=0 THEN P
RINT "MAX U. IN=";U;" AND MIN U.
IN=";N
1109 IF B$="DIAG" AND S=1 THEN P
RINT "AMENDED MAX U. IN=";U;" AN
D MIN U. IN=";N
1110 PRINT "ENTER ""BACK"" TO GO
BACK TO CIRCUIT DETAILS, OR ""
ON"" TO CONTINUE"

```

This program will design a simple voltage regulator for a fixed voltage, using a 741 op amp driving an NPN series pass transistor. The voltage output may be made variable by placing a 50K pot across the zener diode and taking the input to the op amp from the wiper (centre terminal) instead of from the top of the zener diode.

BASIC CIRCUIT



WRITE

SOMETHING

Then

SEND IT

To :

Joe Newman
325 W. Jersey St.
20

Elizabeth, NJ
07222

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or

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Weekdays (Mon. -
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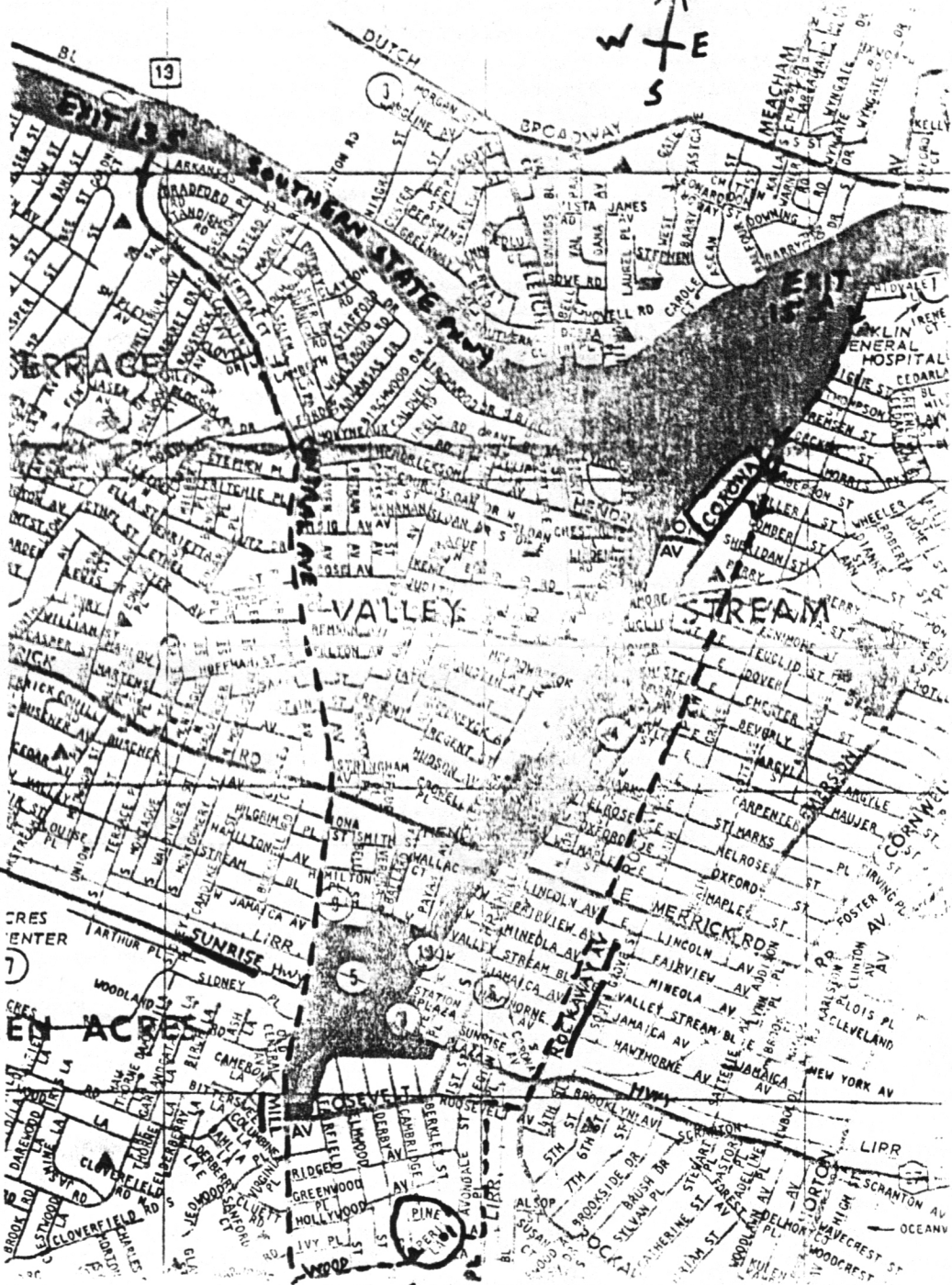
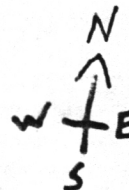
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BONA-FIDE users groups

MEETING INFO.

Next meeting:

Nov. 8, Harvey Rait's,
5 Peri Lane, Valley Stream,
L.I.

Map To Harvey Rait's Home
516-791-6247



Nov. 9 - NYTSE meeting -
Miss Kim's, Park Ave. South,
between 21 + 22nd St.
7 P.M. Call 201-527-
0535 (Joe Newman) for
more info.

SHOW UP AT MEETINGS!
It's Worth it - once
a month!

To
BELT PARKWAY
S.I., Brooklyn
or N.J.

REMEMBER -

DEC. 13 (second
Sunday in Dec.)

Buy, sell, SWAP
meeting, just in

Time for holidays!

At Harvey's house, 2 P.M.

The groups support ALL
Miss out unless you don't show up!

Come ALL!

Harvey's
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ARTICLES! Joe
sent them to NEWMAN!
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